DIFFERENCES IN BLACK ENROLLMENT RATES AND DEGREE ATTAINMENT IN HEALTH- RELATED STUDIES AT TEXAS HEALTH-RELATED INSTITUTIONS

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DEDICATION

This dissertation was a labor of love and is merely the culmination of what was once a dream and is now a reality. First and foremost, I owe this work to the man upstairs. Without his guidance throughout this journey then none of it would have been possible.

I dedicate this dissertation to all of the students that I have ever taught; the truth is that you have taught me way more than I could ever teach you. They taught me to keep pushing when things got rough; every single one of them have been the embodiment of "grit".

This dissertation is dedicated to my son; Carson. Carson, it is my sincere hope and prayer that watching me sacrifice daily for years to pursue my dreams teaches him to always do the same in whatever he chooses to do in life. Also, this labor of love was not possible without the support of my husband, Tim, for supporting all of my crazy dreams, he is the real MVP.

This dissertation is dedicated as well to two women in my family who came before me and pursued everything they wanted; my great-grandmother, Lila Mae Baldwin; born in 1903 and never depended on anyone but God to provide for her life; she was fierce, made her own living, and read her Bible daily until her passing. To my Aunt Debbie, a woman who never let the old time thinking that women should not be in charge or lead a church; instead, she started one and lead it until her recent passing.

To any woman who comes from a less than perfect childhood riddled with brokenness and sprinkled with words professed that you will never amount to anything, do not ever allow those thoughts to become your identity. Believe in yourself. Never

look down, always look ahead with eyes on the prize, and when you arrive at your destination, punch your ticket and keep pushing. Greatness never stops; it just takes breaks.

ABSTRACT

Herrin, Kellie L., *Differences in Black Enrollment Rates and Degree Attainment in Health-Related Studies At Texas Health-Related Institutions.* Doctor of Education (Educational Leadership), December 2020, Sam Houston State University, Huntsville, Texas.

Purpose

The purpose of this study was to examine Black students access and success in health-related degrees by examining enrollment a graduation rates in the Fall of 2016 and the Fall of 2019. Archival data were obtained from THECN consisting of the number of Black students enrolled and number of degrees awarded in health-related degrees at Texas health-related institutions for each year beginning in 2017 through 2019. The health-related degrees for which data were available included certificate, undergraduate, masters, doctoral, medical and dental.

Methods

For this study, a non-experimental, casual-comparative, quantitative research design, paired-samples t-test was used to investigate Black student access and success in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019. Archived data obtained from the Texas Higher Education Accountability System for the nine designated health-related institutions were used to analyze two research questions.

Findings

A statistically significant increase was present in the total number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2017 and the fall of 2019. However, for the differences in the numbers of Black students enrolled in undergraduate, master, and doctoral degrees in the fall of 2016 and

2019 there was not a statistical significance found. Additionally, there was no statistical significance found in the total number of degrees awarded to Black students enrolled in health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019. Finally, there was no statistical significance found in the difference in the number of undergraduate, master, or doctoral degrees awarded to Black students in health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019. Results were consistent with the literature in that Black students are underrepresented in the health professions. Although, Black enrollment and degree attainment are increasing in general, the increases are small and more needs to be done about increasing these numbers to meet the goals of the Texas 60x30.

KEY WORDS: Black students, Black enrollment, Health-related degrees, Texas health-related institutions, Black access, College completion, Black student success, Undergraduate, Master, Doctoral.

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As mentioned above, I do not believe that this dissertation could have ever happened without first going through this program with a more supportive group of people. I want to personally thank every person in Cohort 37 (John Maynard, Jerrell Sherman, Gerald Warren, Ivy Jenkins, Amanda Coleman, Tessalyn Johnson, Katy Pelton, Katherine VanDyke, and Tama Hamrick) for all of the support they shared with me throughout the last several years while pursuing this degree. Lastly, but certainly not least, I want to thank each professor who contributed to my professional knowledge growth as it relates to leadership in education. The things that I learned will resonate with me forever in both professional ways and personal ways.

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CHAPTER 1

INTRODUCTION

It is no secret that in the United States the population of Hispanic and Black residents are changing the demographics of many cities, counties, and states (Schaffer, 2019). According to a recent report published by the Texas Demographic Center, projections are now available about the future demographic predictions through the year 2050 based on migration trends (You, Potter, Valencia, & Robinson, 2018).

The starting point to uncovering the reasons why there is such a low number of Black healthcare providers in the United States in comparison to the population of Blacks, begins with exploring the path to which they can become a healthcare provider and that is the educational experience they embark upon. Ezeala-Harrison and Ajuja (2018) shared that the college graduation rate of Black students is about 42%, which equates to about half of the Black students who begin with the intention of earning the college degree never do. The low graduation rate of Black students is disheartening as there is a direct correlation between the economic success of a population based on the education that they have attained. It is critical to understand the educational journey that Black students go through so that we can understand why Blacks are represented the way they are in college statistics, graduation rates, and employment trends, specifically, in the healthcare professions.

Understanding how the United States has reached the place today with the underrepresentation of minorities in healthcare comes from decades of history. The civil rights movement of the 1960s was an attempt to remedy some of the barriers such as access to healthcare; but issues still exist today. According to Smeldy, Stith, and Nelson (2003), racial and ethnic minorities have always been underrepresented in the health professions in America. One example is in Georgia in which the state-sponsored Georgia Medical School only admitted one black student in 1997, and at the time 30% of the population was Black. However, a brief look at the Medical College of Georgia's website today revealed 52 students enrolled—still an underrepresentation in Medicine (Medical College of Georgia, 2020).

Statement of the Problem

With the implementation of the Affordable Care Act in 2010, the number of Americans who are covered under healthcare insurance has increased, thus the need for an increased number of trained healthcare providers; as it stands there is a shortage of quaified providers (Rosenbaum, 2011). There is a gap in the ethicity makeup of our phyhsicians, dentists, and nurses in the the United States according to the Sullivan Commission on Diversity in the Healthcare. The reasons for gap in the ethnicity makeup of these various healthcare workers can be attributed to several areas: (a) the failure of the K-12 public school system to provide an education to a minority student that prepares them for college-level work, (b) the lack of diversity in the faculty in health science programs, and (c) the admissions policies of health science programs (Sullivan Commission on Diversity in the Healthcare, 2004). These examples are just a few of the

problems that need to be considered when addressing the shortage of diversity within medicine, dentistry, and nursing.

The Sullivan Commission on Diversity in Healthcare Workforce's (2004) asserted that without intervention, the impact felt on the economy will be felt if the healthcare providers do not look like the population that they serve. In an interview conducted with several minority physicians who practice in Texas and several minority physicians who teach in Texas Medical Schools, Sean Price shared that many of the physicians interviewed stated that while there is an increase in Black students enrolling in colleges; many of them are not given the direction as it relates to an educational path that would lead them to study medicine.

> We've actually lost ground in terms of the number of Black men in medical school," Marc Nivet, PhD, an executive vice president at UT Southwestern Medical Center and AAMC's former chief diversity officer, told *AAMC News*. "We're suffering from continued challenges that Black men face up and down the continuum of education. Even though we have more black men in college and graduating college than we've ever had before, we don't have enough of them studying in disciplines that traditionally lead to medicine. (Price, 2017, para. 17)

Theoretical Frameworks

The theoretical frameworks for this study are human capital and social capital theory. Human capital and social capital theories are both focused on a general population of a specific group of people. A theoretical framework is important in guiding

a study as it allows the researcher to make predictions in a study in a way that is guided by principles (Johnson & Christensen, 2008)

Human Capital Theory

Throughout time there have been several theorists who have devoted some research to what is known today as human capital theory. The earliest contributor conducted studies on the function of schooling, experience, and earnings (Mincer, 1974). Another theorist, Schultz conducted research in both the United States and underdeveloped countries that proved that education was the number one factor for ensuring the American economy would continue to grow. Through his studies, he concluded that both the economy and the worker would thrive more due to the improvement of oneself rather than the improvement of the technical developments of the countries (Schultz, 1972).

The most known contributor to the human capital theory is G. S. Becker, who also shared the same beliefs of the previous theorist in that the individual's education and self-improvement are real human capital. Becker (1993) shared that the more education a person has; the more he has to give to the society unless that skill or knowledge becomes obsolete. In the years since Mincer, Shultz, and Becker, the human capital theory has proven itself to be more than a theory; it has proven to be an economic growth source that holds the same importance as other society investments (Galiakberova,2019).

Social Capital Theory

Coleman (1988) described social capital as a concept that blends the actions of an individual into the overall structure and development of social organizations. For example, Coleman believed that obligations, expectations, and trust in the social structure

is one form of capital that involves reciprocity. Meaning, if a person feels like they are a part of their society and feels like that they have benefited from it, they are more likely to give back to their society and see the social capital return. The second part of Colman's theory is the exchange of information between the person disseminating information and the person receiving it. For example, a teacher conveys information to a student about how to best study for his SAT college admissions exam. Then, the student studies for the SAT using these study tips, scores high, and gets accepted to his college of choice.

Finally, Coleman (1988) described norms which are ideas and practices that are believed to be common amongst a group of individuals. Understanding these parts of Coleman's theory has helped many students, parents, high school teachers, college professors, and college administrators understand how to best navigate the post K-12 education experience (Morton, Ramirez, Meece, Demetriou, & Panter, 2018).

Purpose of the Study

The purpose of this proposed dissertation was to examine Black students' access and success in health-related undergraduate, masters, and doctoral degrees in the fall of 2016 and the fall of 2019. Archival data were obtained from the Texas Higher Education Coordinating Board consisting of the number of Black students enrolled and the number of degrees awarded at Texas health-related institutions in the Fall of 2016 and the Fall of 2019. The health-related degrees for which data were available included undergraduate, masters, and doctoral degrees

Significance of the Study

There is a direct link between Black healthcare providers who have higher levels of education will contribute to the workforce and ultimately serve the communities in

which they live (Holzer & Baum, 2017; Wood & Williams, 2016;). It is also a widely known fact that in the state of Texas the minority population is increasing. However, specifically, the Black healthcare practitioner population is not increasing (Hannah-Jones, 2015; The Sullivan Commission, 2004; Association of American Medical Colleges, 2019). Given this fact about the low number of Black healthcare practitioners, a deeper analysis beyond the extrapolation of numbers from population expansion and health-related degrees that is lacking in current literature is needed. This study will add to the current literature focusing on the state of Black representation of Texas health-related professions as a function of higher education degree enrollment and attainment.

Research Questions

In this investigation, Black student enrollment numbers of student enrollment in health-related degrees at Texas health-related institutions were calculated for each year of data (i.e., fall 2016 and fall 2019). Providing descriptive statistics for Black students for each of these years reveal present trends.

1. As a function of degree type, what is the difference in the number of Black students enrolled in Texas health-related institutions in the fall of 2016 and the fall of 2019?
    a. What is the difference in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?
    b. What is the difference in the number of Black students enrolled in health-related master's degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?

c. What is the difference in the number of Black students enrolled in health-related doctoral degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?

2. As a function of degree type, what is the difference in the number of health-related degrees awarded to Black students at health-related public institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

a. What is the difference in the number of health-related bachelor's degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

b. What is the difference in the number of health-related master's degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

c. What is the difference in the number of health-related doctoral degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

Null Hypotheses

1. Null hypotheses were only generated for the inferential research questions previously A statistically significant difference will not be present in the number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

a. A statistically significant difference will not be present in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

b. A statistically significant difference will not be present in the number of Black students enrolled in health-related master's degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

c. A statistically significant difference will not be present in the number of Black students enrolled in health-related doctoral degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

2. A statistically significant difference will not be present in the number of Black students earning health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.

a. A statistically significant difference will not be present in the number of Black students earning health-related undergraduate degrees at Texas health-related institutions in Fiscal Year 2017 and the Fiscal Year 2019.

b. A statistically significant difference will not be present in the number of Black students earning health-related master's degrees at Texas health-related institutions in the Fiscal Year 2016 and the Fiscal Year 2019.

c. A statistically significant difference will not be present in the number of Black students earning health-related doctoral degrees at Texas health-related institutions in the Fiscal Year 2016 and the Fiscal Year 2019.

Research Hypotheses

Research hypotheses were created for the inferential research questions previously delineated since they cannot be written for descriptive research questions.

1. A statistically significant difference will be present in the number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.
    a. A statistically significant difference will be present in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.
    b. A statistically significant difference will be present in the number of Black students enrolled in master health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.
    c. A statistically significant difference will be present in the number of Black students enrolled in doctoral health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.
2. A statistically significant difference will be present in the number of Black students who earned a health-related degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.
    a. A statistically significant difference will be present in the number of Black students who earned a health-related undergraduate degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.
    b. A statistically significant difference will be present in the number of Black students who earned a health-related master's degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.

c. A statistically significant difference will be present in the number of Black students who earned a health-related doctoral degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.

Definition of Terms

Key terms are defined below to provide the readers with a clear understanding of the concepts presented in this dissertation.

Bachelor's degree

The Texas Higher Education Coordinating Board Education Data Center (2017) identified a bachelor's degree as "this award normally requires at least 4 but not more than 5 years of fulltime equivalent college-level work" (p. 5).

Black

The THECB Education Data Center (2017) identified a person of Black ethnicity as "The race of a person having origins in any of the black racial groups of Africa" (p. 8).

Doctoral Degree

The Texas Higher Education Coordinating Board Data Center (2017) defined the doctoral degree as

> An academic degree beyond the level of a master's degree that typically represents the highest level of formal study or research in a given field. The doctor's degree classification includes, but is not limited to, such degrees as Doctor of Education, Doctor of Juridical Science, Doctor of Public Health, and the Doctor of Philosophy degree in any field such as

> agronomy, food technology, education, engineering, public administration, radiology, or ophthalmology. (p. 27)

Health-related institution

Pursuant to the Texas Administrative Code (2003), Title 19, Part 1, Chapter 5, Subchapter A, Rule §5.3 defines health-related institution as "a medical or dental unit as defined by the Texas Education Code, §61.003 (5)". The Texas Education Code §61.003 (5) further specified,

> *Medical and dental unit* means The Texas A&M University Health Science Center and its component institutions, agencies, and programs; The University of Texas Medical Branch at Galveston; The University of Texas Southwestern Medical Center at Dallas; The University of Texas Medical School at San Antonio, The University of Texas Dental Branch at Houston; The University of Texas M. D. Anderson Cancer Center; The University of Texas Graduate School of Biomedical Sciences at Houston; The University of Texas Dental School at San Antonio; The University of Texas Medical School at Houston; The University of Texas Health Science Center - South Texas and its component institutions, if established under Subchapter N, Chapter 74; the nursing institutions of the Texas A&M University System and The University of Texas System; and The University of Texas School of Public Health at Houston. (para, 8)

Master's degree

The THECB Education Data Center (2017) identified a master's degree as "an award that requires the successful completion of a program of study of at least the full-time equivalent of 1 but not more than 2 academic years of work beyond the bachelor's degree" (THECB, Education Data Center, 2017, p. 43).

Delimitations

For this study, data reported to the THECB were used. This study was delimited to enrollment in health-related degrees awarded to Texas Black students at the 14 designated health-related institutions. The data were delimited to two academic years of enrollment and completion rates as reported by THECB. Finally, given that this study only focused on Black student population and health-related degrees, comparison with other ethnic groups were not present in this study.

Limitations

For this dissertation, the focus was on the enrollment and degree attainment rates of Black students in health-related programs in the State of Texas. The relationship between Black student enrollment and success was studied by using archival data downloaded from the Texas Higher Education Coordinating Board Accountability System. Using archival data for research presented a limitation because 100% accuracy could not be assured given that there may be an issue with the internal validity of the study. Despite the fact that The Texas Higher Education Accountability uses a process that includes error checking and measures requiring institutions to certify the data; it is possible the institutions made an error. Another limitation with using archival data is that it cannot be guaranteed that other variables id not affect the outcome, so it is not a fair

assumption to generalize the results of this one particular study to represent the enrollment and success of all Black students pursuing health-related degrees.

Assumptions

A few assumptions in this study about Black students existed; one assumption is that the data for Black students' enrollment and graduation rates will be accurately reported by the health-related instructions as they report to the THECB. It also assumed that students and the school accurately report a student's ethnicity. Finally, another assumption is that this data will be representative of all Black students experience in the education system.

Organization of the Study

Chapter I contains background information, statement of the problem, purpose of the study, theoretical framework, significance of the study, research questions, hypothesis, definition of terms, limitations, delimitation, and assumptions. Chapter II contains an overview of the literature that has been explored regarding Black students' enrollment in college. Chapter III is dedicated to the research methods for this study. Chapter IV is dedicated to the analysis and presentation of the data and finally, Chapter V is dedicated to discussion, implications, and recommendations for future research.

CHAPTER II

REVIEW OF THE LITERATURE

Employment of healthcare professionals is projected to add about 1.9 million jobs (U.S. Department of Labor, 2019) between 2018 and 2028. There are approximately 2.2 million employed nurses; 600,000 physicians; and 153,000 dentists in the United States today and of this number only less than 9% are nurses, 6% are physicians, and 5% of dentists are form the minority population (The Sullivan Commission on Diversity in Healthcare Workforce, 2004). In its most recent report, The Complexities of Physician Supply and Demand, the American Association of Medial Colleges (2019) found that the United States would need an additional 95,900 doctors immediately if health care utilization patterns were equalized across race.

Affirmative Action

Affirmative Action was a term that was first coined by then President Kennedy in 1961 as a way of addressing discrimination that was still happening in spite of all that had been done to prevent it. It was then developed and enforced in 1965 by then President Lyndon B. Johnson when he issued the Executive Order 11246 requiring all governmental contractors and subcontractors to take affirmative action to expand job opportunities for minorities. President Johnson made many more contributions towards the equal treatment of minorities, women, and children while he served as President (American Association for Access, Equity, and Diversity [AAAED], n.d.). Many people may be surprised to know that the "landmark" case that brought affirmative action into the higher education arena was the Regents of The University of California v. Bakke, 1978. Bakke is a White male student who had applied to 12 Medical schools and had not

been accepted to any of them. He decided to sue the school at Davis for rejecting him twice. His argument was that the school had admitted students with lower scores than him all because of their minority status. The part of this injustice of admission practices that was up for debate was the fact that Davis reserved 16 of its 100 spots for students of color. The conclusion of his suit was that he was granted admission into Davis and went on to become a successful anesthesiologist (Regent of The University of California v. Bakke, 1978). A more recent example of affirmative action can be found in a specific school in Texas; Texas Tech University was ordered by the Department of Education to stop using race as part of its admissions process. The reason is because officials from the University could not prove that they had done due diligence to verify if that recruiting technique was indeed proving to be effective (Reilly, 2019).

Black Youth Perception of K-12 Education

Much of the narrative that surrounds Black students and their interest in pursuing a college degree has been that they do not find pursuing a secondary education of much importance. That statement, however, could not be further from the truth according to a study conducted that found that over 50% of the students felt that that although pursuing the higher education was necessary; they were not sure how to pay for it or where to go to learn more information about paying for college (Anderson, 2018). Many Black students in the United States have been left out of the college planning process and lack the basic knowledge of where to go for help to pay for school because they have no one as their role model because they are often the first in their family to attend college. This financial barrier keeps many Black students from pursuing a secondary education (Anderson, 2018). Black students also have concerns about standardized testing when it comes to

pursuing a college degree because during the K-12 education experience they may not have been prepared as well as they should have for standardized admissions exams (Anderson, 2018). Furthermore, they are concerned about the lack of support services that they may receive when the pursue college based on their experiences in the K-12 setting.

"Personnel such as social workers, school guidance counselors and psychologists play a critical role in student success, yet far too often these essential personnel are inadequately present, especially on campuses with large African American populations" (Anderson, 2018, p.). It is no secret that when students of any color have support of teachers and administrators that reach out and encourage them; they perform better in school and expect more of themselves. The support that is given to Black students is important because they often only have support from the educators at their school. Some of the Black students are the first to even dream of pursuing a college education. Therefore, they do not have the constant encouragement that other students may have at home. Black students are no different than other students. They are intelligent and capable. However, they have different obstacles to overcome. According to Anderson (2018), the Black high school students were pleased with their high school teachers, but they felt that the class sizes were too large, and they got lost within the larger population of students. Some key recommendations from the Anderson (2018) study are as follows: (a) reduce the number of barriers to attending college, (b) address widespread student discipline issues that create unequal opportunities to learn, (c) challenge the deficit narrative about the educational aspirations of low-income African American youth, and

(d) improve school-based practices and partnerships to increase African American student achievement.

Black Male Experience

Multiple studies have been conducted throughout the years that prove that Black males enroll in college and complete college at a far lesser rate than that of Black females (Brooms, 2016; Carey, 2016; Harper, 2006). To uncover the reason for this difference it is important to explore the reasons for the difference in the enrollment and completion rates between Black males and females. Scholars revealed that Black males often deal with numerous odds that are stacked against them such as negative perceptions from society about their ability to achieve certain academic success, the lack of support at home, the lack of a male role-model in the house, positive student-teacher relationships, and the friends that they surround themselves with. (Brooms, 2016; Carey, 2016; Harper, 2006). Harper (2006) stated that some Black male students link being academically successful to trying to "be white" (p. 340). Some researchers (Ford, 2013; Ford & Russo, 2016; Morgan et al., 2015) shared that the longer the Black boys stay in school, the more negative influence they fall under once they begin to find themselves in programs like special education that then affects the way they feel about themselves. Other Black male students find they are motivated to do well giving them a sense of pride because they know the value of doing well in K-12 and its influence on their future (Gregory & Huang, 2013).

Much of the later explanation has a direct link to the positive relationships the Black boys have with their parents in the home. These boys were taught the value of being academically prepared to go to college despite several barriers that could hold them

back such as a not having a father-figure (Wood & Williams, 2016). Some Black boys find the absence of having a father-figure as motivation to do better for their mothers and the sacrifices that she has made to motivate them to break the barriers that were put in front of them (Wood & Williams, 2016).

Positive teacher relationships are also key for Black boys as they look for someone to identify with them. However, it is not easy to find as most educators are non-Black (Goings, 2017; Nelson, 2016). The reason that the low percentages of Black teachers is considered a barrier is because most non-Black educators do not have high expectations for Black boys (Goings & Shi, 2018; Nelson, 2016). Goings and Shi (2018) in their study noted that teachers that are not Black typically do not have high expectations from Black students academically so these teachers who are not Black may not challenge Black students to push harder and excel. Often these low expectations lead to the under or over representation of Black students in programs such as gifted-talented and special education. They explored the extent to which specific factors (i.e., students' expectations, parental expectations and involvement, teacher-student relationships, and peer influence) had on predicting the educational attainment of Black male students. When Goings and Shi (2018) reviewed at the attainment of post-secondary education attainment for Black males from lower socioeconomic backgrounds, they found that Black males attended and attained a college degree at a low rate. When researchers controlled for the socioeconomic influence, Black males' expectations for themselves and their math teachers' expectations for them had significant impact on their educational attainment. The correlation between the Black males' and the math teachers' expectations lends itself to the thought that if a Black male has the belief that he will

achieve success in college no matter what that is exactly what happens (Goings & Shi, 2018). Their study confirmed previous research on how parental expectations can influence the decisions of African American males make in regard to postsecondary enrollment (Carey, 2016; Harper, 2012). Moreover, an interesting part of their study is that parental expectations, teachers' expectations, and peer influence are not predictors of degree completion (Goings & Shi, 2018). However, they do have some impact on Black males' academic degree attainment.

Black Female Experience

In 2014, then President Obama presented a program called My Brother's Keeper initiative, which pledged more than $200 million dollars to programs that would mentor and support the life trajectories of young men of color over a 5-year period. The My Brother's Keeper initiative was one of many things that would be done over the coming decade to try and improve the college enrollment and graduation rates of young Black men. Though that plight is an important one, it left the Black female in the shadows as if she was not suffering from some of the barriers that her counterparts were. A year later, Obama developed another program a global one, Let Girls Learn, which given the international scope lacks the specific focus on naming and addressing the domestic challenges that Black girls and women uniquely face as a result of their marginalized racial and gender statuses. While the results of this global initiative show positive outcomes, it uses languages such as all Black girls are showing success which indicates that every single Black girl is doing well when that may not be the case. It takes focus off of Black girls that are not doing well. Whereas it is not the same when it comes to uncovering the findings of the initiative for the Black boys (Neal-Jackson, 2018). In

comparison to their White counter-parts, Black female students lag behind their White counterparts in achievement and attainment and they are six times more likely to be suspended or expelled than their White female peers (Blake, Butler, Lewis, & Darensbourg, 2011; Evans-Winters & Esposito, 2010). In her research, Neal-Jackson (2018) developed a synthesis of several previously conducted studies on this topic of Black female experiences in school. She found the information to be revealing and organized her findings in to themes as follows: (a) academic orientations and expectations, (b) Black (feminine) identity performance, and (c) schooling opportunities.

As it relates to academic orientations and expectations, the findings of several studies did not focus on the success of Black female students; instead it focused on the social interaction of the Back-female students which feeds into the racial bias in which Black students are there to help the white students succeed (Hill-Collins, 2000). Neal-Jackson (2018) indicated in her study that the Black female students were not only academically intelligent, and they could also break the information down and explain it to others to help them to understand it. However, these young Black girls were not being recognized for such accomplishments. Like many of the studies conducted on the Black male students; teacher perceptions about their students' achievements also played a role in the expectations that they had for their Black female students (Gregory, Clawson, Davis & Gerewitz, 2016). Many of the teachers did not expect their Black female students to attend college. Therefore, they did not push and motivate them to try harder in class. Pringle, Brkich, Adams, West-Olatunji, and Archer-Banks (2012) in their study asked a teacher this specific question, "What percentage of African American girls pursue mathematics or science in higher education, or in their careers?" and the teacher

responded “20% tops” (p. 222). According to these researchers, this math teacher did not consider that the student may not have been given the confidence she needed to pursue the math and science course paths, instead she attributed their limited representation to a lack of ability, motivation, and interest rather than the lack of opportunities they would have to pursue such careers.

Black Students and STEM

In a recent report published by Funk and Parker (2018) with the Pew Research Center, Blacks and Hispanics are underrepresented in STEM occupations relative to their share in the U.S. workforce. There has been little rise of Blacks in STEM jobs as it has only gone from 7 % in 1990 to 9% today; yet they represent 11% of the workforce. The survey conducted find a higher share of Blacks in STEM jobs report experiencing any of eight types of racial discrimination (62%) than do others in STEM positions. Blacks say they are treated as if they are not competent to do their jobs and many of them shared that there is little racial diversity in their workplace.

In this same survey conducted by the Pew Research center, 41% of Americans believed that the reason that there is a lack of diversity in the STEM workforce is because of a lack of encouragement for Blacks to pursue STEM occupations from an early age. Additionally, 42% of Americans attributed limited access to quality education to prepare them for these fields is a reason for the underrepresentation of Blacks in the STEM workforce. Of the people surveyed, 31% of them believed that the reason there are not more Blacks in STEM is because they face discrimination in the recruitment, hiring, and promotion process and 27% of them believed it is because there is a lack of Black role models in STEM occupations.

When participants were interviewed about their own experiences and influences to join a STEM occupation, a few of participants surveyed had the following to share:

> You must introduce STEM fields early in the elementary school years. Then continue to build on that by establishing STEM clubs and activities. Provide information to parents about local/community STEM events for continued interests. Most of all, make sure that any STEM student has the rigorous preparation that will be needed to get them accepted into college and able to handle the nature of the college level classes - Black woman, nurse, 49. (Funk & Parker, 2018, para. 47)
>
> Providing opportunities such as putting upgraded computers and/or science labs in inner-city schools, libraries and community centers. Black men currently in the STEM industries must be visible to the younger generation in order to show the value of science, math, and technology skills and the career implications. - Black man, systems engineer, 30. (Funk & Parker, 2018, para. 44)

College Enrollment

According to the National Center for Education Statistics [NCES] (2019a), the overall college enrollment rate has increased from 35% in 2000 to 40% in 2017. In 2017, the college enrollment rate was higher for Asians (65 %) than for Whites (41%), Blacks (36%), and Hispanics (36%). Since 2000, there has been an increase of 27% in undergraduate degree college enrollment and that rise is expected to continue through 2028, with an estimated 17.2 million students enrolled. Post baccalaureate enrollment

has increased by 39% since 2000 with further expectation to increase to 3.1 million students by 2028 according to the NCES (McFarland et al., 2019).

In 2017, a large majority of the degrees conferred by postsecondary institutions were concentrated in three fields of study: liberal arts and sciences, general studies, and health professions programs. One half of the master's degrees conferred in 2017 were in three fields of study according to NCES (McFarland et al., 2019).

Historically Black Colleges and Universities

According to the National Center for Education Statistics (2019c), there are 101 Historically Black Colleges Universities (HBCUs)which account for 2.3% of the total degree granting post-secondary institutions in the United States. Historically Black Colleges and Universities were established in the 1800s to provide education for students of African descent. The HBCUs as they are now are intended to develop African American Leaders; depending on who you talk to African Americans who attend Primarily White Institutions' tend not to have as a high of value on community service as Black students who graduate from HBCUs according to Former MIT Provost Professor, Phillip L. Clay in his published (2012) Ford Foundation White Paper. The HBCU Medical School Effect referred to the effect that HBCUs have on the rate of Black chairs, faculty, and students in medical school as they represent 17% of colleges supplying the majority of African American applicants to medical school (Gasman, Smith, Ye, & Nyguyen, 2017). Two of the top HBCUs in the United States produce a combined number of successful graduates form their Medical School than do the top four PWIs. This fact about HBCUs can be attributed to the dedication that these two universities have as it relates to the greater effort to provide a specific pre-medical curriculum, rather

than just course options (Gasman et al., 2017). It should also come as no surprise that HBCUs are very good at building pre-med pipeline partnerships and including cultural competency skills in their curriculum (Barr, Gonzalez, & Wanat, 2008; Gasman et al., 2017).

Gasman et al. (2017) conducted a case study over a three-year period in which they interviewed students to understand the work and impact of two HBCUs, Xavier University of Louisiana and Prairie View A&M. Xavier University is led by a long time President, Norman Francis. Norman Francis made it his life goal back in 1970 to be the largest producer of Black doctors and he has succeeded in achieving this goal because Xavier University produces the largest number of Black doctors each year more than any other school whether it be another HBCU or PWI (Gasman et al., 2017; Hannah-Jones, 2015).

Minorities in Science Education

There are many reasons why minority children are not often interested in health science once they reach college age. These reasons are varied but include minorities not having role models in the field of health science, no exposure to programs of health science before college, and poor K-12 preparation in math and sciences (Zebrak, Le, Boekeloo, & Wang, 2013). In their study Zebrak et al. (2012), investigated high achieving minority 10th graders as to their predictors for pursuing a health science education. They revealed that minority students were more likely to pursue a Bachelors' degree in a health science field if they had perceived parental support and they knew one or both of their parents had completed a college degree in the past. Moreover, the perceived parental support can also be addressed by high school counselors as they can

develop relationships with the minority students and expose them to health science careers early and begin to prepare them on what they can expect when they apply to college health science programs. This counseling support is also an excellent form of support that leads to the success of the minority student exploring a career in health sciences (Gasman et al., 2017; Thompson & Kelly-Vance, 2001; Zebrak et al., 2013).

In their study Zebrak et al. (2013), they followed up on a previously conducted study in which a project called CURB (Climbing Up and Reaching Back) was designed to determine predictors of minorities pursuit of health science careers in minority students at a specific instruction in Maryland. Zebrak et al. (2013) identified six different intuitions from which to select their study participants. They had the participants complete a survey on their feelings about pursuing the health-sciences. They had the students complete a scaled survey in which they rated scaled responses on questions related to self-efficacy to overcome barriers to enrollment in college health-science courses, their level of perceived adult support, their plans to pursue a bachelor's degree in a science-related field. Interestingly Zebrak et al.a (2013) discovered a direct correlation between having a parents support and the student's decision to then pursue obtaining bachelor's degree. Furthermore, two of the variables in their study with regard to the parental educational level were statistically significant predictors of the student's pursuit of a degree in health-science (Zebrak et al., 2013).

College Degree Completion

According to the NCES 2019 annual report, *The Condition of Education*, over one million associate degrees were awarded of which 186,000 were in health professions or health-related programs (McFarland et al., 2019). Also, the report revealed that there was

a 57% increase in the number of bachelor's degrees awarded between 2000 and 2017 and the number of degrees conferred in health professions increased 213% between those same years. Furthermore, a sizeable growth in the number of doctorates awarded between 2000 and 2017 increased 99% (McFarland et al., 2019).

In a report written by McFarland et al. (2019) on behalf of the NCES, the number of postsecondary certificates and degrees conferred at each award level increased between 2000-01 and 2016-17. The number of certificates below the associate's level conferred during this period increased by 71%. Also, the number of degrees conferred for the other college levels during this period increased 74% at the associate's level, 57% at the bachelor's level, 70% at the master's level, and 52% at the doctor's level.

Additionally, it was reported that "About 60% of students who began seeking a bachelor's degree at a 4-year institution in fall 2011 completed that degree at the same institution within 6 years; the 6-year graduation rate was higher for females than for males" McFarland et al., 2019).

In another report released by the NCES; *Indicator 23: Postsecondary graduation rates* (2019b), it was revealed that

> The 6-year graduation rate for first-time, full-time undergraduate students who began their pursuit of a bachelor's degree at a 4-year degree-granting institution in fall of 2010 was highest for Asian students (74%), followed by White students (64%), students of Two or more races (60%), Hispanic students (54%), Pacific Islander students (51%), Black students (40%), and American Indian/Alaska Native students (39%). [para. 27]

Personal Income

People enroll in college typically to improve and to secure their financial future as an investment (Holzer & Baum, 2017). People who enroll in college have to consider some things as they are thinking about attending college like the cost versus the reward, the ability to be able to pay for college as they, and the possibility of taking out loans for college. It is easier for students who come from families with money to figure out how to fit their tuition cost into their budget (Holzer & Baum, 2017). In the United States it is not a requirement that every person who joins the workforce have a college background. Some people are choosing not to attend college because they cannot afford it, or they lack self-confidence in their ability to do well. Other people are choosing to get degrees in industry specific fields rather than a general liberal arts degree because the wage earnings in the industry specific fields is good (Holzer & Baum, 2017). Personal income is also affected by a person's upbringing and what they saw modeled as financial health. a student grew up in a school district that may not have of focused on a certain subject for example, science, then when the student enters college, he or she most likely feel unprepared for the science courses. Therefore, the student will not pursue the occupation of their choice (Holzer & Baum, 2017). The fact that some students will graduate high school not being college ready is particularly troubling because a person's income will increase with the higher degree that they attain (Holzer & Baum, 2017). Holzer and Baum (2017) suggested that personal income or return on the college investment is not real until a person reaches at least the graduate level.

60x30TX Higher Education Plan

The 60x30TX higher education plan has four goals: (a) by 2030, at least 550,000 students in that year will complete a certificate, associate, bachelor's, or master's from an

institution of higher education in Texas; (b) by 2030, at least 60% of Texans ages 25-34 will have a certificate or degree; (c) by 2030, all graduates form Texas public institutions of higher education will have completed programs with identified marketable skills and; (d) by 2030, undergraduate student loan debt will not exceed 60% of first-year wages of graduates of Texas public institutions. Although many goals were reached by the previous state plan of Closing the Gaps, the state of Texas must position itself to educate a more diverse population (60x30TX, 2015). The race and ethnicity distribution are expected to increase for the minority population while decreasing the White population, which translates to the need to educate students of all backgrounds. The goal of 60 % attainment by 2030 will require that both the private and public schools. Given the fact that this plan requires that a more diverse student population will need to be served and prepared to be college ready, it may mean that K-12 and higher education educators do what they can to facilitate the availability to both economically disadvantaged students and non-disadvantaged students to attend college to earn marketable skills (60x30TX, 2015).

Disparities of Blacks in Healthcare

Many studies have been conducted as it relates to the access to healthcare and quality of care that minorities receive in the United States. However, despite the efforts of many people during the last decade, the disparities are still present. Health care disparities refer to inequitable differences between groups in health coverage, access to care, and quality of care received (Wasserman et al., 2019) Several factors contribute to the disparities experienced by minorities and lack of access and untimely care are amongst the top factors (Fiscella & Sanders, 2017, Wasserman et al., 2019). One of the

ways the government sought to remedy the lack of access was with the passage of the Affordable Care Act [ACA] (Sealy-Jefferson, Vickers, Elam, & Wilson, 2015). The purpose of the ACA was to address the health disparities that many Americans were feeling as it related to access and it also addressed and expanded coverage of Medicaid and the Children's Health Insurance Plan (CHIP). Since the additional Medicaid and CHIP coverages have taken place; uninsured rates have decreased from 223.3 % in 2010 to 12.1% in 2017 (Sealy-Jefferson et al., 2015; Wasserman et al., 2019). Of the demographic groups who benefited the most from that were the Latino, Black, and Asian people. Therefore, the access barriers that they once experienced were now less of an issue (Wasserman et al., 2019).

Patient-Clinician Interaction

The United States has become more diverse in the last quarter century. Diversity brings about an important aspect of healthcare delivery that many people may not even consider to be important—culture. The beliefs that a healthcare provider may have about a certain treatment or drug may be vastly different than the belief that his or her patient may have. Many times, this difference in medicinal use or treatments stems from the individual's culture or the place from which he or she originate. Many researchers (e.g., Sequist, Fitzmaurice, & Marshall, 2010; Wasserman et al, 2019) have concluded that there is a direct correlation between the belief system of the healthcare provider and the ability or inability of that provider to be able to then be culturally competent enough to understand that those same beliefs may not be what are in the best interest of the patient. Of particular importance is the issue patient-clinician communication. If the patient and clinician for example do not speak the same language, then the ability to connect

becomes diminished even with a translator. When services are then translated or barely understood, it leads to less discussion of treatment options and even more concerning it leads to less engaged clinicians (Wilson, Chen, Grambach, Wang, & Fernandez, 2005).

Bias and Stigma

If a healthcare provider possesses stereotypes, bias, or stigma with certain groups of people, then the care that is delivered to the patient only contributes to the disparities that many minorities face to this day (Fiscella & Sanders, 2016). These healthcare stereotypes can lead to the unequal treatment of a patient. For example, many people have a belief that people who live in poor communities do not possess healthcare coverage. Therefore, the people who live in poorer communities may not receive the same level of care than their more well-off counterparts. Researchers (e.g. Blair, Steiner, & Havranek, 2011; Katz, 2003) have revealed that people with Black or darker skin have encountered clinicians who do not involve them in clinical decision making in the same way as these same clinicians involve their White patients.

The Sullivan Commission on Diversity in Healthcare Workforce

The Sullivan Commission on Diversity in the Healthcare Workforce was developed because of actions of a few politicians in an attempt to bring awareness and change in the future of the minority population in healthcare professions (The Sullivan Commission on Diversity in the Healthcare Workforce, 2004). According to the report, "a study by the Institute of Medicine recommends increasing the number of minority health professionals as a key strategy to eliminate health disparities" (The Sullivan Commission on Diversity in the Healthcare Workforce, 2004, p. i.). The Sullivan report revealed that our nation's demographics are changing and are becoming more diverse.

However, our training and employment of minorities has not kept up with these changes. To address these health disparities, a grant was funded to Duke University to train and ultimately employ minorities in the healthcare professions.

The Sullivan Commission's (2004) recommendations were threefold; (a) suggestions for colleges, universities, and health systems to perform self-reflection about what they are doing to meet the changing demographic of our nation as it relates to provide minorities ample opportunities to pursue a degree in a healthcare related field; (b) improvements in the K-12 education system to give a proper education to better prepare students who choose to pursue post-secondary health occupations; and (c) more institutions need to be committed to diversity. According to The Sullivan Commission Report, the education sector is affected by diversity or a lack of diversity and so is the healthcare market in general. The business community voiced its concern by filing a concern with the Supreme Court in support of the University of Michigan affirmative action admission policies (The Sullivan Commission on Diversity in the Healthcare Workforce, 2004). Healthcare is affected by diversity or in the current case, the lack of diversity in the field. Poor health outcomes for members of racial and ethnic minorities is attributed to a lack of minorities serving actively in the healthcare field (The Sullivan Commission on Diversity in the Healthcare Workforce, 2004.)

Medical Providers

According to the U.S. Bureau of Labor Statistics (2019), Blacks or African Americans accounted for 16% of the hospital workforce and 18.1% of the health services (offices of physicians, dentists, chiropractors, optometrists, outpatient care centers, home health services, and skilled nursing facilities) workforce. It is a reality in the United

States today that even the most highly trained medical professionals, still themselves face racism in their own professions (Hauser, 2018). Based on a New York Times article published in 2018, a Black physician, Dr. Stanford was on a flight when she began to help a fellow passenger next to her. Dr. Stanford was questioned by two flight attendants while she was assisting her fellow passenger. Both times, the flight attendants demanded to see her medical license. One particular important point that she revealed is that when we conduct a Google search for a physician the results that come up are typically for a White male physician. Today, professional organizations and associations are developed to show support for Black healthcare practitioners Association of Black Women Physicians, Society of Black Academic Surgeons, National Black Nurses Association, just to name a few. The National Black Nurses Association was started in California back in the 1970s when it was difficult for Blacks to find providers of their same race. The goal of this professional association was to come together and provide the care for their communities (National Association of Black Nurses, 2019). According to the Society of Black Academic Surgeons, they were formed as an organization in 1989 as a forum for discussing issues of concern for Black academic surgeons.

According to the U.S. Department of Labor (2018), between 2018 and 2028 the overall employment of physicians and surgeons is projected to grow 7% faster than the average for all occupations. With the United States having a growing elderly population and baby boomers who are now reaching retirement age, many of them are experiencing chronic illness which will in turn force them to seek healthcare that uses the most recent technologies. The demand exists despite the new technological advances that could reduce the number of physicians needed to perform basic functions. There is a particular

shortage projected for primary care physicians who practice in rural areas where the population is not as heavy (U.S. Department of Labor, 2018).

Medical Education

According to a report published by the Association of American Medical Colleges (2019), for the first time in the last several decades, women have now reached parity with men in regard to applications to medical school. This report regarding pay parity between men and women revealed that the same cannot be said about the growth of Black or African American applicants, matriculations, and graduates who lagged behind the other groups. Diversity is an important focus point for many medical schools as the nation's demographics are changing rapidly (Schaffer, 2019). Diversity sensitivity begins with having a diverse faculty pool so that minority students will aspire to attend and learn from professors that look like them. Moreover, the latest report from the AAMC (2019) revealed that Black physicians only make up about 4% of the faculty in U.S. Medical schools today.

Dentists

Similar to the disparity with the representation of minority physicians to the minority population in the United States, the number of minority dentists to the number of the minority population in the United States. Many of the minority population are concentrated in the south Atlantic region of the country (Mertz, Calvo, Wides, & Gates, 2016). With this shortage, many people are concerned with the effects of such a shortage in poor oral health in the country's citizens (Mertz et al., 2016). Some of the literature (Brown, Wagner, & Johns, 2000; Mertz et al., 2016;) mentioned the choice that ethnic/racial minority dentists make when they choose their practice location and many of

them choose to practice in a location where there is an opportunity to make a good profit. Black dentists in the United States are predominately trained at HBCUs with Howard University being the highest producer of Black dentists (Mertz et al., 2016). Approximately, 30.6% of Black dentists enter solo practice, whereas about 21.2% enter an associate arrangement, and the remainder of Black Dentist enter practice amongst various areas such as government or corporate (Mertz et al., 2016).

The career trajectory for Black dentist for the most part remains general dentistry, with some variance in that about 62% of them also practice cosmetic dentistry, 47% practice implantology, 25% practice orthodontics (Mertz, Calvo, Wides, & Gates, 2016). In a study Mertz et al. (2011), reported that the average income was reported to be $144,779 annually. Furthermore, they revealed that Black dentists do in fact provide the majority of dental care for the underrepresented populations and that this practice is most likely a direct reflection of the Affordable Care Act and the expansion of the Medicaid programs (Mertz et al., 2016).

The Black Student

As noted in some studies, where people feel connected, understood, and supported; they tend to do well and grow (Johnson et al., 2007; Thelamour, Mwangi, & Ezeofor, 2019). In the United States over the last decade many colleges and universities have increased recruitment efforts of minority students and Black Americans make up approximately 13.5% of the total college population (Jaschik, 2017). Many people may argue that while that number seems low; it is important to understand the Black students educational experience as it relates to college and the connections that get them there, follow them through, and then see them successfully attain the occupation that they

worked so hard to earn. Understanding their plight begins with a look into the experience in which they live daily.

Social Support on Campus

Black students are like other students in that they want and need to feel a social connectedness within the group in which they are living and learning amongst (Harper, 2009; Hotchkins, 2016). Over the past few decades, the higher education landscape has changed and has become more diverse. Therefore, it has brought to light the fact that there are various forms of social support that students of color need to be successful in a college environment (Harper, 2009; Harper & Hurtado, 2007; Hotchkins, 2016). Several researchers have noted that college campuses tend to be isolating spaces for some students of color because Black students have reported that they feel a sense of disconnection to their campuses in a way that serves them to excel academically or feel any sense of belonging (Chapman-Hilliard & Worthington, 2015; Harper & Hurtado, 2007; McDougal, Cox, Dorley & Wodaje, 2018; Bentley-Edwards, 2015). Mwangi, Thelamour, Ezeofor, & Carpenter (2018) suggested that because of the social movements such as “Black Lives Matter” and the effects they have on racial tensions, students feel the tension locally as well. Additionally, several researchers (McDougal, Cox, Dorley, & Wodaje, 2018; Rankin & Reason, 2005; Mwangi et al., 2018; Wood & Palmer, 2014) revealed that even when Black students are connected to their peers of the same race; they still do not feel a connectedness to the campus as a whole and the feeling of disconnectedness is often due to the negative perceptions that society has about race.

Attitude towards education

Many things shape students' attitude towards education. First, to be examined is the transition to college, which for many Black students is typically determined by their college readiness (Brooms, 2014). Also, of particular importance when examining the Black student's attitude towards higher education is to consider how is the student being included on the campus. Are they seeing faculty that looks like them, are they being invited to be involved in extra-curricular activities or clubs that make them feel welcomed (Brooms, 2016)? Hunter and Stinson (2019) explored the influence that a Black male math teacher had on Black male high school students' perceptions of teacher care. In this ethnographic study, the Black male teacher and three Black male students were all interviewed on three different occasions. Upon the review of the findings of their study, Hunter and Stinson (2019) developed six overarching themes that the participants used to describe teacher care: (a) motivation, (b) culture, (c) confidence, (d)discipline, (e) concern for futures, and (f) environment.

Students are motivated by an inspirational teacher who leads by example and makes students feel important. Of importance to all students is for a caring teacher to have fair expectations and discipline in their classrooms by showing empathy, practicing patience, giving second chances, and always being firm but fair (Hunter & Stinson, 2019; McDougal, Cox, Dorley, & Wodaje, 2018). A caring teacher will treat his or her students as their own children, will do everything he or she can to prepare all of the students for the future world of work, will not allow the student to cheat themselves out of that future, and will provide an environment in which students thrive by offering a safe and non-judging zone (Chen, Ingram, & Davis, 2014; Hotchkins & Dancy, 2017). Hunter and

Stinson (2019) stressed that ultimately, students need to feel like the teacher genuinely is invested in their future.

Interpersonal Relationships

Supportive relationships with peers, faculty, and staff are associated with higher levels of satisfaction for Black males in college (Strayhorn, 2008; Brooms, 2019). Historically, Black students have had to battle the notion that they do not care about their education as they have had to face these stereotypes from society for years, despite the fact that many of them are successful in spite of the lack of support that they did not receive, especially on primarily White institutions (Bonner & Bailey, 2006; Palmer, Wood, & Arroyo, 2015; Brooms, 2019). In their study, McDougal et al. (2018) reported that 34% of the participants identified their peers as one of their biggest sources of support. The students interviewed shared that their peers offered them emotional support, financial support, educational and academic advice. Black students who were interviewed shared that just knowing that their peers experienced some of the same hardships offered them encouragement that they will come out just fine too. Many Black students only felt comfortable with other Black students and feel the sense of family when being around fellow Black people that look like them. Some of the participants interviewed in this study relayed the message that often times they do not feel a sense of community or belonging amongst their non-Black peers and that sometimes leaves them feeling discouraged (McDougal et al., 2018).

Financial Challenges

According to a study conducted by McDougal et al. (2018), financial challenges are one of the biggest challenges that Black students face on college campuses. The students

shared that it not only effects their ability to pay for college, but it also shared that it distracts them from being able to concentrate on their studies. For example, one student stated,

> So, I work like 25 to 29 hours a week and I volunteer 9 hours a week and I take 18 units. And so, every day I'm jam-packed with things to do and I can't let one fall without the other falling as well. And it's like, 'Well I really don't want to go to work because I have to study for a statistics test. But if I don't go to work, I can't pay for my $1050 rent bill.' … I need to finish this in four years because I don't have money to stay here for another year semester. So, it's really frustrating. (McDougal et al., 2018. Para 10)

Students in this same study shared that they had a large responsibility of paying for off campus housing and all of the bills that go along with that, so they had no choice but to work. When they work so many hours, it starts to affect their academic performance.

Family Support

Researchers (e.g., Nichols, Kotchick, Barry, & Haskins, 2010) have concluded that family support is essential to the success of Black college students. The degree to which parents are involved, parent's previous college degree attainment, and single-parent household are all factors that play a part in the success of the Black college student (Brooks, 2015). One important distinction in much of the literature is related to the comparison of the Black students who graduate from college and Black students who leave early without finishing their degree. Black students who finish stated that they had family support that consisted of emotional, social, and financial support. Whereas, Black students that did not complete had family obligations that prevented them from finishing

(Brooks, 2015; Nichols et al., 2010). Brooks (2015) reported that Black students described their family relationships in varying ways; some of them described it as the traditional two-parent household with siblings, while other students included their extended family members such as grandparents, aunts, and uncles in the family dynamic. No matter who the family make up included the students in the study described the importance of attaining a college education because their family members always encouraged them either by telling them how important it was to attend college or by them witnessing how hard their family members worked for little pay because they do not have a college education. Moreover, some of the participants in the Brooks (2015) study described that their relationships with parents and siblings improved once they moved away to college. However, other participants stated they felt bad for leaving their family while there were family obligations at home such as one student's mother who became ill. Financial support is a large role that families played or did not play in the support of the Black students in college and often times left the student feeling like they were a burden on the family (Brooks, 2015)

Presence of a Father

It is important to explore the presence of a father in the home for Black students because in our current society it is important to understand the roles that Black fathers are taking and the effects it is having on their children (Doyle, Clark, Cryer-Coupet, Nebbitt, Goldston, Estroff, & Magan, 2015; McDougal, Durnell, & Dlamini, 2018). Researchers have indicated that parental involvement usually has a lot to do with the parent's socioeconomic class (Hill, 1999; Love, 2008; McDougal et al. 2018). Many Black fathers approach education and its success in the same way that their fathers may or may

not have approached it with them. It is important to understand their involvement and the role that it plays in their children being or not being successful in school. Much of the literature that does exist only focuses on the absence of the Black father and how it affects their offspring. However, a good amount of literature indicated that Black fathers who are present and stress the importance of an education to their children is beneficial because it helps them see the value of attaining an education for themselves (Doyle et al., 2015; McDougal et al., 2018; Hattery & Smith, 2014). Black fathers who are present have history of teaching their children about the ethnicity/backgrounds which then turns into the association of a positive racial identity for their children (Livingston & McAdoo, 2007).

Microaggressions

Of the previously mentioned 13.5% of Black college students in the United States, 85% of them attend predominately White institutions (Lee & Barnes, 2015). Black students have long faced racial tension in their everyday life, so it probably comes as no surprise that these same Black people face racial tensions in the academic world. The racial microaggressions are not always noticeable to everyone and sometimes they are masked as other things such as a Black male college student is less academically devoted than his White male counterpart (Salami, Lawson, & Metzger, 2020). Often Black students suffer from other microaggressions (e.g., every day verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, which communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership) that can begin to make them feel like they will not have a fair shot at a good job once they are done with school or much less that

they are even capable of enrolling in college, staying in college, being successful in college, and graduating to earn a good job (Salami et al., 2020).

Morales (2020) investigated the experiences of Black students at a Historically White Institution where she interviewed several Black college students about their experiences. Her findings revealed typical microaggressions that Blacks face in the education arena such as *Wow, you are so articulate*, as if it is to be expected only from a race other than Black people. Morales conducted 62 in-depth interviews with undergraduate students at this university. The interview sample consisted of 32 men and 30 women. Students ranged in age from 18 to 30 years old except for one transfer student who was in her late 30s. Students who were interviewed were required to have at least one year of attendance at the university in order to have a full year of experience and to provide answers to the interview questions. The 62 in-depth interviews consisted of semi structured, open-ended questions where students were asked to describe their interactions with both Black and non-Black students, faculty and staff, their involvement on campus, how they utilized various university resources, and their perceptions of the campus environment. In her research she employed a term called *beasting*, in which the students would respond to the microaggressions on campus with facts to stand up for the truth versus the narrative that was not true about their race. Beasting was the way that the Black students would impart knowledge to non-Black people who they felt were unknowingly making incorrect statements about Black people, culture, and experiences. In her study, Morales (2020) also reported that many of the students interviewed felt that they were viewed as not having earned their place in the university and that they were only there to meet a minority student quota. Students often felt like they were not held to

the same high academic standards than as their White counterparts. One example of beasting in this study came from a student who described his experience as

> I took a [education] law class. We talked about campus climate and what effect it may have on students' academic performance. And so, they're [students], like, "Well, those kids should have just worked hard." I blew up in class. The professor, he's like, "That was amazing." He said, "I can completely understand you feeling that way." I feel if they were to just go through what we go through, I think they would have a better understanding, and probably wouldn't be so quick to say a lot of the stuff that they say . . . And I feel our race, in particular, has been under a microscope since I've come here. They always talk about Black people. When they're in class they're thinking about it. They're, like, "Did that dude really get in . . .?" Why would you not say that about any other [group]? (Morales, 2020, para. 25)

Unfortunately, in the history of America insensitive types of comments from non-Black students has become the norm. Most people understand that such behavior comes from a place of not knowing any better than to say negative things without thinking of the Black students who are living daily under those kind of assumptions that they can or will not be successful just because they are Black (Giodarno, 2019). Morales (2020) discussed in her findings that in her interview with a male Black student she learned that he, like many other Black students was afraid to speak up or stand up against racially insensitive comments because they have the fear of being labeled as an angry Black man.

Future Employment Prospects

Many Black students become concerned with their employment prospects once college is over due to their experiences with a history of discriminatory practices that has long been allowed behind closed doors in the United States. Often, Black students are the first in their family to attend college. Therefore, they may not come from a family where they were aware of the benefit of a college education. Being the first to attend college put them in a position to work for mostly White college educated men which were often discriminatory in their hiring practices (Wasserman, Flannery, & Clair, 2007). As a result of Affirmative Action, many Black college graduates worry about only being hired as the token hire because of the employer's obligation to have a diverse workforce (Neimann, 2016). There has been much research conducted that has found a positive link between the racial microaggressions that minorities face in the workplace and their overall well-being (Liao, Weng, & West, 2016; Rucker, West, & Roemer, 2010). Toldson and Snitman (2010), explored differences in common occupations and income levels of Black and White men and women with similar educational backgrounds. Also, they revealed that even with educational parity, White men and White women were paid more than Black men and Black women. Interestingly, in the top ten occupations for Black males, none of them were *dream jobs* (e.g., doctors and lawyers) despite them having the necessary college degree to pursue that Partuclar career. Furthermore, Toldson and Snitman stressed the idea that education is vital for Blacks to attain higher paying occupations and reduce the unemployment rate amongst the Black community.

Theoretical Framework

Human Capital Theory

Throughout time there have been several theorists who have devoted some research to what is known today as human capital theory. The earliest contributor conducted studies on the function of schooling, experience, and earnings (Miner, 1981). Mincer (1981) shared that the human capital concept and economic growth were originally two separate ideals but had now come together to be individual growth at the micro-level and the growth of the economy at the macro-level. Schultz (1972) conducted research in both the United States and underdeveloped countries which proved that education was the number one factor for ensuring the American economy would continue to grow. Through his studies, he concluded that both the economy and the worker would thrive more due to the improvement of oneself rather than the improvement of the technical developments of the countries (Schultz, 1972).

A key contributor to the human capital theory is G. S. Becker who also shared the same beliefs of the previous theorist in that the individual's education and self-improvement are the real human capital. Becker shared that the more education a person earns; the more he has to give back to society unless that skill or knowledge becomes obsolete (1993). In the years since Mincer, Shultz, and Becker, the human capital theory has proven itself to be more than a theory; it has proven to be an economic growth source that holds the same importance as other investments that a society has (Galiakberova, 2019).

Social Capital Theory

Coleman (1988) described social capital as a concept that blends the actions of an individual into the overall structure and development of social organizations. For example, Coleman believed that obligations, expectations, and trust in the social structure is one form of capital that involves reciprocity. Meaning, if a person feels like they are a part of their society and feels like they have benefited from it, they are more likely to give back to their society and see the social capital return. The second part of Coleman's theory is the exchange of information between the person disseminating information and the person receiving it. For example, a teacher conveys information to a student about how to best study for his SAT college admissions exam. Then, the student studies for the SAT using these study tips, scores high, and gets accepted to his college of choice.

Finally, Coleman (1988) described norms which are ideas and practices that are believed to be common amongst a group of individuals. Understanding these parts of Coleman's theory has helped many students, parents, high school teachers, college professors, and college administrators understand how to best navigate the post K-12 education experience (Morton, Ramirez, Meece, Demetriou, & Panter, 2018).

Summary

A review of the literature regarding Black students and higher education attainment was presented. Affirmative Action and how it set the stage for education of Blacks in the United States was discussed. The perceptions and experiences of Black youth as the progress through K-12 education was presented to include their experiences in STEM education. Additionally, Black college students' experiences were discussed. Finally, the disparities that Blacks face in healthcare was explored through literature

review. This chapter contains a review of some of the literature that already exists regarding Black student enrollment and attainment in health occupation degrees in Texas. In Chapter III, the proposed research method is presented.

CHAPTER III

RESEARCH METHODS

To address the economic and social impact of the disparity of Black representation in health-related professions as a sector of the population, this study was conducted. Adequate representation of people of color in health-related professions is vital for the future of Texas' economic success. This chapter includes information regarding research design. The following sections are included: (a) participant selection, (b) instrumentation, (C) variables, (d) procedures, and (e) data analysis procedures.

Purpose of the Study

The purpose of this dissertation was to examine Black students' access and success in health-related undergraduate, masters, and doctoral degrees. Archival data was obtained from the THECB consisting of the number of Black students enrolled and the number of degrees awarded at Texas health-related institutions for fall 2016 and fall 2019. The health-related degrees for which data are available include undergraduate, masters, and doctoral degrees.

Research Questions

In this investigation, Black student enrollment numbers of student enrollment in health-related degrees at Texas health-related institutions were calculated for each year of data (i.e., fall 2016 and fall 2019). Providing descriptive statistics for Black students for each of these years reveal present trends.

1. As a function of degree type, what is the difference in the number of Black students enrolled in Texas health-related institutions in the fall of 2016 and the fall of 2019?

a. What is the difference in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?
b. What is the difference in the number of Black students enrolled in health-related master's degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?
c. What is the difference in the number of Black students enrolled in health-related doctoral degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019?

2. As a function of degree type, what is the difference in the number of health-related degrees awarded to Black students at health-related public institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

a. What is the difference in the number of health-related bachelor's degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?
b. What is the difference in the number of health-related master's degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?
c. What is the difference in the number of health-related doctoral degrees awarded to Black students at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019?

Null Hypotheses

1. Null hypotheses were only generated for the inferential research questions previously A statistically significant difference will not be present in the number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

    a. A statistically significant difference will not be present in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

    b. A statistically significant difference will not be present in the number of Black students enrolled in health-related master's degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

    c. A statistically significant difference will not be present in the number of Black students enrolled in health-related doctoral degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

2. A statistically significant difference will not be present in the number of Black students earning health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.

    a. A statistically significant difference will not be present in the number of Black students earning health-related undergraduate degrees at Texas health-related institutions in Fiscal Year 2017 and the Fiscal Year 2019.

    b. A statistically significant difference will not be present in the number of Black students earning health-related master's degrees at Texas health-related institutions in the Fiscal Year 2016 and the Fiscal Year 2019.

c. A statistically significant difference will not be present in the number of Black students earning health-related doctoral degrees at Texas health-related institutions in the Fiscal Year 2016 and the Fiscal Year 2019.

Research Hypotheses

Research hypotheses were created for the inferential research questions previously delineated since they cannot be written for descriptive research questions.

1. A statistically significant difference will be present in the number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

a. A statistically significant difference will be present in the number of Black students enrolled in undergraduate health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

b. A statistically significant difference will be present in the number of Black students enrolled in master health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

c. A statistically significant difference will be present in the number of Black students enrolled in doctoral health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019.

2. A statistically significant difference will be present in the number of Black students who earned a health-related degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.

a. A statistically significant difference will be present in the number of Black students who earned a health-related undergraduate degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.
b. A statistically significant difference will be present in the number of Black students who earned a health-related master's degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019.
c. A statistically significant difference will be present in the number of Black students who earned a health-related doctoral degree at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year of 2019.

Research Design

Peck and Devore (2008) described statistical analysis as the collection, evaluation, and analyzing data where all three tasks are critical components of the process. For this study, a non-experimental research design will be used as the quantitative methodology to address the inferential research questions. Johnson and Christensen (2008) defined non-experimental research as "research in which there is no manipulation of the independent variable and no random assignment to groups by the researcher" (p. 43). Because research participants enter a study belonging to a categorical variable such as race or gender and cannot be manipulated by the researcher, quantitative, non-experimental research methods are utilized frequently in education research (Mertler & Vannatta, 2010).

More specifically, casual comparative is one type of quantitative, nonexperimental research design in which "the researcher studies the relationship between one or more categorical independent variables and one or more dependent

variables" (Johnson & Christensen, 2008, p. 43). In this study, Black student health-related degree enrollment and completion within the State of Texas in the fall of 2016 and the fall of 2019 will be examined using causal-comparative design techniques.

Participant Selection

Archival data for Black students were obtained for this study from the Texas Higher Education Coordinating Board Accountability. Enrollment data for the fall of 2016 and the fall of 2019 were available for Black students as well as completion data for the 2017 fiscal year and the 2019 fiscal year for those who attended a Texas higher education public-health institutions. Institutions that report data include The Texas A&M University Health Science Center and its component institutions, agencies, and programs; and The University of Texas Health System and all of its branches across Texas.

Instrumentation

The Texas Higher Education Accountability System that was used in this study is an online interactive collection tool that tracks performance on participation, excellence, success, and research. This system contains data that allows users to generate reports, queries, and statistics regarding higher education. In this same system data in this study was retrieved for the state's public health-related institutions (Texas Higher Education Accountability System, n.d.)

Summary

This study was completed to ascertain any differences in Black student enrollment and health-related degree attainment at Texas-health related institutions. Conducting this research furthered the quest that many people have to explore and understand what it

takes to improve the numbers of Black students in the college graduate numbers and as equally important in serving their own communities.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Research relating to Texas Black student enrollment and degree completion in health-related professions is limited. Gaps in the literature include specific analysis of the number of Black students entering college and receiving certificate, undergraduate, master, doctoral, and medical degrees. The goal of increasing the Black health professionals in Texas is vital as the ethnic makeup of the state is becoming a minority-majority. Findings presented within this chapter will add to the current literature on Black health profession disparity and provide an overall reference for evaluation of initiative to increase Black participation and success rates in health-related degree attainment. The results of this study should be used by stakeholders, state legislators, higher education administrators, and college enrollment recruiters.

This study was conducted with a non-experimental, casual-comparative, quantitative research design. Causal comparative is a type of quantitative, non-experimental research design in which "the researcher studies the relationship between one or more categorical independent variables and one or dependent variables" (Johnson & Christensen, 2010, p. 43). Prior to data analysis, archival enrollment and completion data were collected using the filters available of the THECB Accountability System (n.d.). Specifically, data were downloaded into an Excel spreadsheet and imported into the Statistical Package for the Social Sciences (SPSS) for analysis were included Participation and Success categories: (a) Health-related institutions, (b) Health-related undergraduate degrees, (c) Health-related Masters Degrees, and (d) Health-related

Doctoral Degrees. For research questions one and two, descriptive statistics were generated, and paired samples *t*-tests were performed.

Results

Results of data analyses are presented and organized by each research question. For the overall research question, results are provided for the descriptive statistics in which the total number of Black students enrolled in health-related degrees for the fall of 2016 and the fall of 2019 are provided. Additionally, for research questions 1a through 1c, results are provided for the descriptive statistics in which results are provided for the number of Black students enrolled in the fall of 2016 and the fall of 2019 in Texas-health related institutions for undergraduate, masters, and doctoral degrees.

Overall Question 1

The parametric dependent samples *t*-test analysis yielded a statistical significance difference in the number of Black students who were enrolled in undergraduate, masters, and doctoral programs at Texas Health-related insertions in the fall of 2017 and the fall of 2019 , $t(11) = -.2.37$, $p = .037$, Cohen's $d = 0.086$, a small effect size (Cohen, 1988). The difference in the number of Black students enrolled in Texas Health-related institutions in the fall of 2016 and the fall of 2019 was 15 students.

Research Question 1a

To determine whether mean differences were present in the number of Black students enrolled in undergraduate health-related degree programs in the fall of 2016 and the fall of 2019, a parametric paired samples *t*-test was performed. A statistically significant difference was not present, $t(7) = -.782$, $p = .460$. Although not statistically significant, the average number of Black students enrolled in undergraduate degree

program in Texas health-related institutions increased from the fall of 2016 to the fall of 2019. Descriptive statistics are presented in Table 1.

Table 1

Descriptive Statistics for the Average Number of Black Students Enrolled in Undergraduate Degree Programs at Texas Health-Related Institutions for the Fall Semester 2016 and the Fall Semester 2019

Fall Semester	*n*	*M*	*SD*
2016	8	44.13	34.41
2019	8	49.50	36.91

Research Question 1b

To determine whether mean differences were present in the number of Black students enrolled in health-related master's degree programs in the fall of 2016 and the fall of 2019, a parametric paired samples *t*-test was performed. A statistically significant difference was not present, $t(8) = 1.311$, $p = .226$. Although not statistically significant, the average number of Black students enrolled in Master's degree programs in Texas health-related institutions decreased from the fall of 2016 to the fall of 2019. Descriptive statistics are presented in Table 2.

Table 2

Descriptive Statistics for the Average Number of Black Students Enrolled in Master's Degree Programs at Texas Health-Related Institutions for the Fall Semester 2016 and the Fall Semester 2019

Fall Semester	*n*	*M*	*SD*
2016	9	68.78	67.14
2019	9	36.44	34.70

Research Question 1c

A parametric paired samples *t*-test was performed to determine whether differences were present in the number of Black students enrolled in health-related doctoral degree programs in the fall of 2016 and the fall of 2019. Although a statistically significant difference was not present, $t(6) = -.718$, $p = .505$, the mean number of Black students enrolled in doctoral degree programs in Texas health-related institutions increased from the fall of 2016 to the fall of 2019. Descriptive statistics are presented in Table 3.

Table 3

Descriptive Statistics for the Average Number of Black Students Enrolled in Doctoral Degree Programs at Texas Health-Related Institutions for the Fall Semester 2016 and the Fall Semester 2019

Fall Semester	*n*	*M*	*SD*
2016	6	46.50	28.81
2019	6	66.67	68.23

Overall Question 2

The parametric dependent samples *t*-test analysis did not yield a statistically significant difference in the number of Black students who were awarded health related degrees (i.e., undergraduate, masters, and doctoral) at Texas Health-related institutions in the fiscal year of 2017 and the fiscal year of 2019 , $t(9) = -.1.032$, $p = .329$. The difference in the number of Black students awarded a health-related degree in Texas Health-related institutions in the 2017 fiscal year and the 2019 fiscal year was 6 students.

Research Question 2a

To determine whether mean differences were present in the number of Black students awarded undergraduate health-related degree programs in the 2017 Fiscal Year and the 2019 Fiscal Year, a parametric paired samples *t*-test was performed. A statistically significant difference was not present, $t(7) = -.272$, $p = .794$. Although not statistically significant, the average number of Black students awarded an undergraduate degree in Texas health-related institutions increased from the 2017 Fiscal Year to the 2019 Fiscal Year. Descriptive statistics are presented in Table 4.

Table 4

Descriptive Statistics for the Average Number of Black Students Awarded Undergraduate Degrees at Texas Health-Related Institutions for the 2017 Fiscal Year and the 2019 Fiscal Year

Fiscal Year	*n*	*M*	*SD*
2017	8	29.50	28.38
2019	8	35.13	40.92

Research Question 2b

To determine whether mean differences were present in the number of Black students awarded Masters' health-related degree programs in the 2017 Fiscal Year and the 2019 Fiscal Year, a parametric paired samples *t*-test was performed. A statistically significant difference was not present, $t(7) = -.045$, $p = .965$. Although not statistically significant, the average number of Black students awarded a Master's degree in Texas health-related institutions increased from the 2017 Fiscal Year to the 2019 Fiscal Year. Descriptive statistics are presented in Table 5.

Table 5

Descriptive Statistics for the Average Number of Black Students Awarded Masters' Degrees at Texas Health-Related Institutions for the 2017 Fiscal Year and the 2019 Fiscal Year

Fiscal Year	*n*	*M*	*SD*
2017	8	27.38	22.52
2019	8	28.00	28.64

Research Question 2c

To determine whether mean differences were present in the number of Black students awarded doctoral health-related degree programs in the 2017 Fiscal Year and the 2019 Fiscal Year, a parametric paired samples *t*-test was performed. A statistically significant difference was not present, $t(7) = -.350$, $p = .737$. Although not statistically significant, the average number of Black students awarded a doctoral degree in Texas health-related institutions increased from the 2017 Fiscal Year to the 2019 Fiscal Year. Descriptive statistics are presented in Table 6.

Table 6

Descriptive Statistics for the Average Number of Black Students Awarded Doctoral Degrees at Texas Health-Related Institutions for the 2017 Fiscal Year and the 2019 Fiscal Year

Fiscal Year	*n*	*M*	*SD*
2017	8	21.38	11.66
2019	8	23.88	12.69

Discussion

Archival data were retrieved form the Texas Higher Education Accountability System to address two overall research questions which were then subdivided into specific questions. Specifically, the first main question was posited to address the number of Black students enrolled in health-related degrees at Texas health-related institutions in the Fall of 2017 and the Fall of 2019. To gain more specificity, that question was subdivided into three additional questions; how many Black students were enrolled in the Fall of 2016 and the Fall of 2019 for undergraduate, masters, and doctoral degrees.

Additionally, the second main question was posited to address the number of Black students who were awarded health-related degrees at Texas health-related institutions in the Fiscal Year of 2017 and the Fiscal Year of 2019. To gain more specificity, that question was subdivided into three additional questions; how many Black students were awarded health-related degrees in the fiscal year of 2017 and the fiscal year of 2019 for undergraduate, masters, and doctoral degrees.

Regarding question one, approximately 158 Black students were enrolled in health-related programs in the Fall of 2016 and approximately 174 Black students were enrolled in health-related program in the Fall of 2019. Specifically; the number of Black students who were enrolled in undergraduate health-related degrees remained consistent with a slight increase from the fall of 2016 (44 students) to the fall of 2019 (50 students); whereas, the number of Black students who were enrolled in a master's degree health-related program in the fall of 2016 (69) and the fall of 2019 dramatically decreased by almost 50% (37). Finally, the opposite occurred for the number of Black students enrolled in health-related doctoral programs in the fall of 2016 (45) whereas in the fall of 2019 (67) Black students were enrolled in a health-related doctoral program.

Regarding question two, approximately 66 Black students were awarded health-related degrees in the 2017 fiscal year and approximately 71 Black students were awarded health-related degrees in the 2019 fiscal year. Specifically; the number of Black students who were awarded an undergraduate health-related degrees remained consistent with a slight increase of about 6 students difference between the Fiscal Years 2017 and 2019; whereas, the number of Black students who were awarded a health-related master's degree only increased by one student difference between the Fiscal Years 2017 and 2019, and the same slight increase can be said for the number of health-related doctoral degrees awarded to Black students in the Fiscal Years 2017 and 2019 with the difference only being an increase of two students.

Conclusion

Given the findings of this study it is important to now determine what to do with the results. Chapter V addresses the implications and recommendations for future

practice and research. For example, the findings of an overall statistical significance in enrollment in Texas Health-related degrees was found, yet there was no statistical significance found in the overall attainment of a health-related degree in Texas health-related institutions. Understanding the implications for this will also lend to the the recommendations suggested in Chapter V.

CHAPTER V

DISCUSSION, IMPLIACATIONS, AND RECOMMENDATIONS

A goal of this study was to add to the literature by researching and providing the results of the success of Black students in health-related degrees. However, as health-related data available from the Texas Higher Education Accountability System are limited to the two designated Texas Health-Related Institutions from only two major university systems, the scale of the study was small. Therefore, the exclusion of the public 4-year universities and community colleges that offer a broad spectrum of health occupation programs reduced the amount data available for analysis. These institutions provide access to health-related professional associate degrees (e.g., nursing, medical imaging, and dental hygiene) and concentrate on Black student enrollment.

Statistical significance was not found in any of the research questions except one; the difference in the total number of Black students who were enrolled in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019. For the first research question group; difference in the number of Black students enrolled in an undergraduate, masters, or doctoral degree at a Texas health-related institution there was an increase between fall of 2016 and the fall of 2019 for the undergraduate and doctoral degrees; yet, a decrease in enrollment in master's degrees for the same years; although not statistically significant. However, it does not mean that this population does not matter and that more focus should not be given to this group of students as there may be other factors to this low increase other than recruiting students to enroll in the specific degrees. Additionally, for the second research question for the group; difference in the number of Black students awarded an undergraduate, masters, or doctoral degree at a

Texas health-related institution there was an increase between the 2017 fiscal year and the 2019 fiscal year for the undergraduate, masters, and doctoral degrees, although not statistically significant. As with the enrollment numbers, the completion numbers are worth exploring as there could be several factors that contribute to these results.

Connection to the Literature

Given the implementation of the Affordable Care Act in 2010, the number of Americans who are covered under healthcare insurance has increased, thus the need for an increased number of trained healthcare providers; as it stands there is a shortage of quaified providers (Rosenbaum, 2011). The increase for Black healthcare professionals has not taken on a significant increase in a three-year span; however given more time it may have and given a more in-depth look at all insitutions that offer health-related degrees it may be true that Texas colleges are doing a better job at recruiting future Black healthcare professionals. In relation to college enrollment; in 2017, the college enrollment rate was higher for Asians (65 %) than for Whites (41%), Blacks (36%), and Hispanics (36%). These trends align with what discovered in this study in that there is an increase in Black student enrollment in the health-related degrees in Texas, although it is a small increase based on only looking at the enrollment numbers at Texas health-related institutions.

One of the key recommendations in the literature was by Anderson (2018) when he shared that educational institutions should improve school-based practices and partnerships to increase African American student achievement. This recommendation was supported by the findings in the literature in that the enrollment numbers should have been increasing annually if partnerships had been formed between the Texas health-

related institutions and the other high-schools and universities. In a report published by Funk and Parker (2018), Blacks are underrepresented in STEM occupations in the United States. Evident by the results of this investigation was that the number of Black students attaining an undergraduate, masters, or doctoral health-related degree did increase, but it was not statistically significant. This study supports the finding in the study conducted by the Pew Research Center, in which 41% of Americans believed that the reason that there is a lack of diversity in the STEM workforce is because of a lack of encouragement for Blacks to pursue STEM occupations from an early age.

Additionally, in relation to college degrees awarded; according to the NCES 2019 annual report, *The condition of education*, over one million associate degrees were awarded of which 186,000 were in health professions or health-related programs (McFarland et al., 2019). Also, the report revealed that there was a 57% increase in the number of bachelor's degrees awarded between 2000 and 2017 and the number of degrees conferred in health professions increased 213% between those same years. Furthermore, a sizeable growth in the number of doctorates awarded between 2000 and 2017 increased 99% (McFarland et al., 2019). The findings in this investigation closely mirror this finding in that there has been an increase in the number of students that have been awarded health-related degrees; however, the numbers are not as large as two and three-fold as they are in overall college degrees awarded.

The race and ethnicity distribution are expected to increase for the minority population while decreasing the White population, which translates to the need to educate students of all backgrounds. In relation to the goal of the Texas 60X30 plan; the outcome of this study shows promise towards achieving the goal to having 60% of the population

holding a certificate or degree of some sort by 2030. Healthcare is affected by diversity or in the current case, the lack of diversity in the field. Poor health outcomes for members of racial and ethnic minorities is attributed to a lack of minorities serving actively in the healthcare field (The Sullivan Commission on Diversity in the Healthcare Workforce, 2004.)

Connection to Theoretical Framework

Increased income is the result of a person investing in themselves through education and/or training such as based on Becker's (1993) Human Capital Theory. Human capital is the way in which a person can give back to the community he or she lives in; this is particularly important in the Black community where so many healthcare disparities exist today. In this investigation there an increase in enrollment of Black students in health-related degrees but there was not a large increase in the awarding of degrees in healthcare. Although, increases were reported, the increases were not statistically significant which leads to economic inequities present in the Black population as well as the overall economic health of the states.

Social Capital Theory as described by Coleman (1988) required the continuous input of the members to maintain control over certain resources. Without the increase of Black students become Black health professionals, the productivity of the Black society will continue to see disparities.

Implications for Policy

Data for health-related degrees were only reported for the 12 designated health-related institutions. In addition, the majority of the designated health-related institutions are components of just two university systems (i.e., University of Texas and Texas A&M

University) leaving over 25,202 universities that might contribute additional data for more thorough analysis.

This lack of available information is a barrier to analyzing the overall state of Black representation in health-related programs. The Accountability System receives data from 38 public universities, nine health-related institutions, four technical colleges, and 80 two-year public institutions (THECB, 2020). As mentioned, Black students are overrepresented in the 2-year institutions, and many of these institutions (as well as public 4-year universities) have various health programs such as nursing, radiologic science, physical and respiratory therapy, and dental hygiene. As these institutions are already reporting data measures for success and participation, inclusion of health-related degrees from the additional 576,693 and 732,112 students in public 4-year and 2-year students, respectively, would greatly improve the accuracy of assessing outcomes in this area (THECB, 2020). With the available data, clearly initiatives are not increasing the percentage of Black students enrolling and graduating in the health-related institutions. As these institutions are at the university level, barriers to enrollment could include recent reversal of affirmative action policies and the location of the institution. For Black students, the motivation to attend college is present but often guidance is lacking. Many Black students are first generation college students or are in lower socioeconomic areas with few role models to help with financial assistance or planning for college in general (Schaffer, 2019). Targeted programs to identify student interests much earlier in their education would help families understand and plan for future college needs

Furthermore, higher institutions should design recruitment and retention programs centered on the family and not just the individual student. The difficulty in solving Black

underrepresentation in education and healthcare is finding the balance of government intervention based on the necessity in diversifying healthcare and education in general and maintaining equal rights protection in admission policies

In a report to the Secretary of Health and Human Services, The Sullivan Commission on Diversity in the Healthcare Workforce (2004) warned of the overwhelming and increasing diversity gap between the health professionals and the communities they serve. A major theme of the report was improving access by improving the educational pipeline into the healthcare professions. For Texas, a portion of this pipeline exists in the community colleges where students can begin in associate-level health programs such as nursing, radiologic science, and premedical studies. By allowing this information to be publicly available for all institutions, the state would gain more accurate analysis of the conditions in health education.

Recommendations for Future Research

To prepare the future of the Texas workforce; the state of Texas introduced the 60x30 educated population plan with many goals that can be summed into ensuring that the states workforce will have representation with diversity in mind to try to lessen the healthcare disparities that Black people experience.

An examination of Black students' motivation and experience in higher education would be of benefit to assist in creating indicatives such as a mentoring program at the college level or better recruitment techniques within the college structures for Black students specifically. Initiatives based solely on increasing numbers will continue to be ineffective without an understanding of the specific areas to address to encourage Black student enrollment and completion, especially in healthcare related professions.

Texas has an identified need for Black nursing, medical and dental professionals. I was not able to address the success of Black students in programs related to the nursing, physician, and dental workforce from the data measures available at this time. When data are available, further investigation in the specific areas is necessary to assess and address completion in these programs.

Conclusion

For this study, a non-experimental, casual-comparative, quantitative research design was used to investigate Black student access and success in health-related degrees at Texas health-related institutions in the fall of 2016 and the fall of 2019. Research questions were addressed to examine the differences in the total numbers of Black students enrolled in undergraduate, master, and doctoral degrees in the fall of 2016 and 2019 at Texas Health-related institutions. Additionally, research questions were addressed to examine the differences in the total numbers of Black students who completed an undergraduate, master, and doctoral degrees in the Fiscal Year of 2017 and the Fiscal Year of 2019 at Texas Health-related institutions. To address the questions in this study archival data, obtained from the Texas Higher Education Accountability System, were analyzed**.**

A statistically significant increase was present in the total number of Black students enrolled in health-related degrees at Texas health-related institutions in the fall of 2017 and the fall of 2019. However, for the differences in the numbers of Black students enrolled in undergraduate, master, and doctoral degrees in the fall of 2016 and 2019 there was not a statistical significance found. Additionally, there was no statistical significance found in the total number of degrees awarded to Black students enrolled in

health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019. Finally, there was no statistical significance found in the difference in the number of undergraduate, master, or doctoral degrees awarded to Black students in health-related degrees at Texas health-related institutions in the Fiscal Year 2017 and the Fiscal Year 2019. Results were consistent with the literature in that Black students are underrepresented in the health professions. Although, Black student enrollment and degree attainment are increasing in general, the increases are small and more needs to be done about increasing these numbers to meet the goals of the Texas 60x30.

The Texas Higher Education Coordinating Board provides data in respect to has Black student enrollment and completion in health-related degrees; however, it is hard to get straight forward results to analyze. Therefore, accountability does not exist for benchmarks and measures are not being assessed. It is imperative that the state of Texas make the data for all Texas public institutions available on its website for easy retrieval so that the community can readily evaluate this information. As evidenced in this study, it is imperative that attention needs to be focused on the recruitment practices of Black students in Texas health-related institutions so that healthcare disparities can improve. Given the way the system is now set up, finding answers to straightforward questions regarding Black student access and success in health care professions is not possible with the publicly published data, rather, it is arranged in various non-logical ways, as to making the larger picture unavailable. The labor force of Texas deserves to have a diverse representation of the community it serves; in order to do that it is imperative that state policy makers and higher education administrators provide an accurate assessment of state funded health-related programs.

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APPENDIX

Date: Sep 10, 2020 1:01 PM CDT

TO: Kellie Herrin George Moore
FROM: SHSU IRB
PROJECT TITLE: Differences in Black Student Access and Success Rates for Health-Related Studies in Texas Health-Related Institutions
PROTOCOL #: IRB-2020-228
SUBMISSION TYPE: Initial
ACTION: Exempt
DECISION DATE: September 10, 2020
EXEMPT REVIEW CATEGORY: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:

(i) The identifiable private information or identifiable biospecimens are publicly available;

(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or

(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Greetings,

Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

*** What should investigators do when considering changes to an exempt study that could make it nonexempt?**

It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research.

In this case, please make available sufficient information to the IRB so it can make a correct determination.

If you have any questions, please contact the IRB Office at 936-294-4875 or irb@shsu.edu. Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Chase Young, Ph.D.
Chair, IRB
Hannah R. Gerber, Ph.D.
Co-Chair, IRB

VITA

Kellie L. Herrin

EDUCATION

Doctor of Education (Higher Educational Leadership), October 2020
Sam Houston State University, Huntsville, TX
Dissertation: Differences in Black Enrollment Rates and Degree Attainment in Health-Related Studies at Texas Health-Related Institutions

Master of Education, December 2016
Western Governors University, Austin, TX

Bachelor of Health Science, June 2006
Nova Southeastern University, Fort Lauderdale, FL

ACADEMIC EMPLOYMENT

Director of Bachelor of Health Science Program-Online Department, CBD College October 2019-present
Program Development from course creation all the way to ABHES approval. Curriculum creation. Building course within Moodle, instructing in the program. Manage multiple adjunct faculty members via remote work.

Program Director- Medical Assisting-Health and Human Service Division- Lone Star College, August 2015-Present
Teach and manage the instructional delivery of the hybrid Medical Assisting program. Assign and supervise all students on clinical rotation. Serve as the curriculum chair since 2016. Promoted from Assistant professor to full professor as of August 2020.

Academic Dean The College of Healthcare Professions, College of Education for all healthcare related programs for online and residential. August 2012-August 2015 programs to include Radiology, Nursing, Surgical Technology, Dental Assisting, Medical Assisting, Massage Therapy, and Medical Billing and Coding.

Allied Health Program Director-Kaplan Higher Education Corporation, Texas School of Business, August 2010-August 2012
Responsible for the instructional supervision of the education team for both Medical Assisting and Medical Billing and Coding programs. Developed the program for transition from on ground to a hybrid format.

Instructor/Externship Coordinator-Remington College- August 2008-August 2010
Instruct in the allied health programs and develop and supervise students on the clinical experience.

PRESENTATIONS AT PROFESSIONAL MEETINGS

Herrin, K. (2020, July). Enrollment and Success of Black Students in Texas *with the Frontline during COVID-19. Presentation given to Medical Assistants for Professional Development. Texas Society of Medical Assistants Summer Meeting. Houston, TX*.

Herrin, K. (2018, February). Undocumented students and guidance in the U.S. higher education system. Paper presented at the annual meeting of the Southwest Educational Research Association, (SERA), New Orleans, LA.

PROFESSIONAL MEMBERSHP

Southwest Educational Research Association (SERA)
United States Distance Learning Association (USDLA)
Texas Association of Community Colleges (TACC)
Texas Community College Teachers Association (TCCTA)
American Medical Technologists (AMT)
American Association of Medical Assistants (AAMA)-Currently serve as the TSMA Education Chair